

### **REMARKS/ARGUMENTS**

Claims 1, 3 and 24 have been amended by this Response. Claims 25-32 have been added herein. Claim 3 has been amended for antecedent basis purposes. Claims 1-32 are currently pending in this application, and are at issue herein.

#### **Amendments to the Specification**

Applicant has amended the specification to correct a typographical error. No new matter has been added.

#### **Allowed/Allowable Subject Matter**

Claims 6-23 have been allowed. Claims 2-4 have been objected to as being dependent upon a rejected base claim, but the Office Action indicates that they would be allowable if rewritten in independent form, including all of the limitations of the base claim and any intervening claims. Applicant thanks the Examiner for this notification. However, based on at least the arguments submitted below, Applicant believes that claim 1, as amended, is allowable over the prior art, and has elected not to rewrite the objected to claims in independent form at this time.

#### **§ 102 Claim Rejections**

Claims 1 and 5 stand rejected under § 102(b) as anticipated by U.S. Patent No. 5,251,088 to Coutellier et al. ("Coutellier"). Applicant respectfully traverses the claim rejections for at least the following reasons.

Independent claim 1 has been amended to recite active adjustable control, *i.e.*, control performed after manufacturing of the head is complete and it has been integrated into a storage device. Coutellier neither discloses nor suggests such active adjustable control.

Coutellier, at column 7, line 65 to column 8, line 8, discloses adjusting the current delivered by each read head by inserting an insulating layer 50 between magnetic layer 7 and line conductors Y1, Y2. The insulating layer 50 is illustrated in Fig. 3 of Coutellier. Thus, once the device of Coutellier is built and integrated into a storage device, the current control which is dictated by the insulating layer 50 cannot be changed or otherwise modified. During manufacture, the insulating layer 50 is incorporated into the Coutellier device to achieve a certain current level and, once manufactured, the current level of the Coutellier device is set and cannot be changed.

In contrast, independent claim 1 recites "*at least one electrode positioned adjacent an edge of the magnetic sensing structure for actively adjustably controlling the area of the magnetic sensing structure through which the current can flow.*" Claim 1 recites that it is the at least one electrode that controls the area of the magnetic sensing structure through which the current can flow, and not the insulating layer as taught by Coutellier. Further, independent claim 1 recites that the at least one electrode provides active adjustable control of said area. Coutellier neither discloses nor suggests use of an electrode for controlling the area of a magnetic sensing structure through which current can flow and, further, neither discloses nor suggests providing active adjustable control of said current. Accordingly, independent claim 1 is believed allowable over the prior art.

Dependent claims 2-5 depend cognately from independent claim 1 and add features which further remove the present invention from the prior art as recognized by the Examiner in the

indication of allowable subject matter in many of these claims. Given at least the distinctions identified above, the dependent claims are believed allowable over the prior art and a separate discussion of the dependent claims will not be belabored for the sake of brevity.

### **§ 103 Claim Rejections**

Claim 24 stands rejected under § 103(a) as obvious over Coutellier. Applicant respectfully traverses the claim rejections for at least the following reasons.

Independent claim 24 has been amended to recite active adjustable control, *i.e.*, control performed after manufacturing of the head is complete and it has been integrated into a storage device. Coutellier neither discloses nor suggests such active adjustable control.

As previously noted, Coutellier discloses adjusting the current delivered by each read head by inserting an insulating layer 50 (see Fig. 3) between magnetic layer 7 and line conductors Y1, Y2. Thus, once the device of Coutellier is built and integrated into a storage device, the current control which is dictated by the insulating layer 50 cannot be changed or otherwise modified.

In contrast, independent claim 24 recites "*at least one electrode positioned adjacent an edge of the magnetic sensing structure for actively adjustably controlling the area of the magnetic sensing structure through which the current can flow.*" Claim 24 recites that it is the at least one electrode that controls the area of the magnetic sensing structure through which the current can flow, and not the insulating layer as taught by Coutellier. Further, independent claim 24 recites that the at least one electrode provides active adjustable control of said area. Coutellier neither discloses nor suggests use of an electrode for controlling the area of a magnetic sensing structure through which current can flow and, further, neither discloses nor suggests providing

active adjustable control of said current. By disclosing a fixed current control dictated by the insulating layer 50, Coutellier actually teaches away from providing active adjustable control, as recited in independent claim 24.

Additionally, the read sensor of claim 24 is recited as included in a disc drive. There is no showing or suggestion in Coutellier of incorporating its read sensor in a disc drive. The concerns of designing a read sensor for use in a tape device are different from those associated with disc drives, and there is no suggestion in Coutellier that its read sensor can be incorporated into a disc drive. Thus, Applicant submits that the requisite motivation is lacking.

Accordingly, for at least the above-identified reasons, independent claim 24 is believed allowable over the prior art.

Dependent claims 25-26 depend cognately from independent claim 24 and add features which further remove the present invention from the prior art. Given at least the distinctions identified above, the dependent claims are believed allowable over the prior art and a separate discussion of the dependent claims will not be belabored for the sake of brevity.

### **New Independent Claims**

Applicant has added independent claims 27 and 30 herein. Independent claim 27 recites that the at least one electrode positioned adjacent an edge of the magnetic sensing structure adjustably controls the area of the magnetic sensing structure through which the current can flow via a voltage applied to the at least one electrode. Independent claim 30 recites a layer of semiconductor/semimetal material provided between the magnetic sensing structure and the at least one electrode. Coutellier neither discloses nor suggests these features.

As previously noted, Coutellier utilizes an insulating layer 50 provided between the magnetic layer 7 and line conductors Y1, Y2 to control the current delivered by the read head. Once the insulating layer 50 is provided and the device of Coutellier manufactured, the current flow is set and cannot be adjusted. Coutellier does not disclose or suggest the use of an electrode for adjustably controlling the area of a magnetic sensing structure through which current can flow and, further, does not disclose or suggest providing such adjustable control via a voltage applied to an electrode. Thus, independent claim 27 is believed allowable.

Coutellier also does not disclose or suggest providing a layer of semiconductor/semimetal material between a magnetic sensing structure and an electrode, as recited in independent claim 30. In fact, the Office Action acknowledged the allowability of such a structure by acknowledging the allowability of claim 2. Dependent claim 2 also recites the structure of a semiconductor/semimetal layer provided between the magnetic sensing structure and the at least one electrode. In the Office Action, claim 2 is indicated as allowable if rewritten in independent form. Thus, independent claim 30 is believed allowable.

Accordingly, for at least the above-identified reasons, independent claims 27 and 30 are believed allowable over the prior art. Dependent claims 28-29 and 31-32 depend cognately from independent claims 27 and 30, respectively, recite further structural detail further delineating over the prior art, and are also believed allowable. A further discussion of the dependent will not be belabored for the sake of brevity.

### **Conclusion**

Applicant's invention is a novel magnetic reading device and method which includes features not found in the prior art. For at least the above-identified reasons, Applicant submits

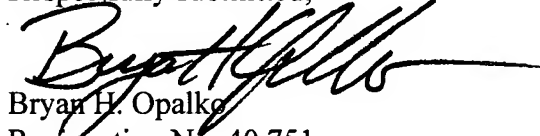
that claims 1-32 are allowable over the prior art. Early notification to that effect is respectfully requested.

Enclosed is a check for \$800.00 to cover the extra claims fee. The Commissioner is hereby authorized to charge any underpayment and credit any overpayment to Deposit Account No. 02-4553.

Should any issues remain, the Examiner is invited to contact the undersigned at the number listed below to advance prosecution of the case.

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Respectfully submitted,



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